

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) An illumination device-(100), comprising:

an incoherent solid state light source-(110) adapted to emit light over at least one light emission surface-(112) and having a total light emission surface area S_0 ;
and
a solid light guide reflective cavity-(120)-having an entrance aperture-(122)
adapted to receive the light from the incoherent solid state light source-(110) and a first surface that is configured to reflect the light within the solid light guide by total internal reflection, and
_____ a light extraction aperture-(124) device adapted to extract the light from the solid light guide and output the light from the incoherent solid state light source-(110),
wherein the light extraction device has a refractive index that substantially matches a refractive index of the solid light guide, and includes a surface area S_1 that is in optical contact with the solid light guide and extracts the light by preventing the total internal reflection at the surface area S_1 ; and the surface area S_1 of the light extraction-aperture-(124) of the reflective cavity-(120) device is smaller than the surface area S_0 .
2. (Currently amended) The illumination device-(100) of claim 1, wherein the incoherent solid state light source-(210) consists of includes a single extended LED.
3. (Currently amended) The illumination device-(100) of claim 1, wherein the incoherent solid state light source-(210) comprises includes an array of LEDs.

4. (Currently amended) The illumination device-(100) of claim 1, wherein the light extraction aperture surface S₁ has a rectangular shape and as-an aspect ratio of 16:9.

5. (Currently amended) An illumination device-(100), comprising:

an incoherent solid state light source-(110) adapted to emit light over at least one light emission surface-(112) and having a total light emission surface area S₀;

and

a solid light guide, coupled to the light source, that includes a reflective layer-(129) disposed directly on and covering the incoherent solid state light source-(110) and a first surface that reflects the light within the light guide by total internal reflection; and

a refractive index matching material disposed on a surface area S₁ of the first surface that extracts the light from the solid light guide by preventing the total internal reflection at the area S₁ and outputs having therein an opening-(124) for outputting the light from the incoherent solid state light source-(110),

wherein a-the surface area S₁ of the opening-(124) of the reflective layer-(129) is smaller than the surface area S₀.

6 (Canceled)

7. (Currently amended) The illumination device-(100) of claim 5, wherein the opening surface area S₁ has a rectangular shape and as aspect ratio of 16:9.

8. (Currently amended) An illumination device (200, 300, 400, 500, 600), comprising:
an incoherent solid state light source (210) adapted to emit light over at least
one light emission surface (212) and having a total light emission surface area S_0 ;
a light circulation device (220) including a solid light guide that includes at
least one light receiving surface (222) adapted to receive the light from the incoherent
solid state light source (210), and at least one light reflecting surface adapted to
reflect the light by total internal reflection, a light extraction area (224) having a
surface area S_1 ; and
light extraction means (230) for extracting the light from the reflecting surface
of the light circulation device (220) at the light extraction area (224),
wherein the light extraction means has a light extraction surface of area S_1 in
contact with the reflecting surface, and has a refractive index that substantially
matches a refractive index of the light circulation device thereby extracting the light
by preventing the total internal reflection at the light extraction surface, and S_1 is
smaller than S_0 .

9 (Canceled)

10. (Currently amended) The illumination device (200, 300, 400, 500, 600) of claim 9
8, wherein the light circulation device (220) further comprises includes a reflective
material disposed on a surface of the light guide which that does not support total
internal reflection.

11 (Canceled)

12. (Currently amended) The illumination device (200, 300, 400, 500, 600) of claim 8,
wherein the light extraction means (230) comprises includes a light collimating
structure.

13. (Currently amended) The illumination device (200, 300, 500, 600) of claim 8, wherein the light extraction means (230) ~~comprises~~ includes a compound parabolic collimator.

14. (Currently amended) The illumination device (400) of claim 8, wherein the light extraction means (450) ~~comprises~~ includes a prismatic optical component.

15. (Currently amended) The illumination device (300) of claim 8, ~~further comprising~~ including a reflective polarizer (340) disposed in an optical path between the light extraction area (224) and the light extraction means (230), wherein the light circulation device (220) includes at least one diffusing reflector (339) disposed at a sidewall thereof.

16. (Currently amended) The illumination device (300) of claim 8, wherein the light circulation device (220) includes at least one specular reflector (339) disposed at a sidewall thereof, said illumination device (300) further comprising:

a reflective polarizer (340) disposed in an optical path between the light extraction area (224) and the light extraction means (230); and

a quarter wavelength foil (345) in an optical path between the specular reflector (339) and the reflective polarizer (340).

17. (Currently amended) The illumination device (400) of claim 8, wherein the light circulation device (220) includes at least two light receiving surfaces (222) and the incoherent solid state light source (210) includes at least two light-emitting components, each light-emitting component being disposed adjacent to and confronting a corresponding one of the light receiving surfaces (222).

18. (Currently amended) The illumination device (500) of claim 8, wherein the light circulation device (220) has a cross-section ~~whose~~ thickness that is less near the light extraction area (224) than at the light receiving surface (222).

19. (Currently amended) The illumination device-(600) of claim 8, ~~further comprising~~ including:

a second incoherent solid state light source adapted to emit light over at least a second light emission surface-(212),

wherein the light circulation device-(220) includes at least a second light receiving surface-(222) adapted to receive the light from the second incoherent solid state light source-(210), and

wherein the two incoherent solid state light sources each emit light having a different spectral color.

20. (Currently amended) The illumination device-(100) of claim 8, wherein the incoherent solid state light source-(240) ~~consists of~~ includes a single extended LED.